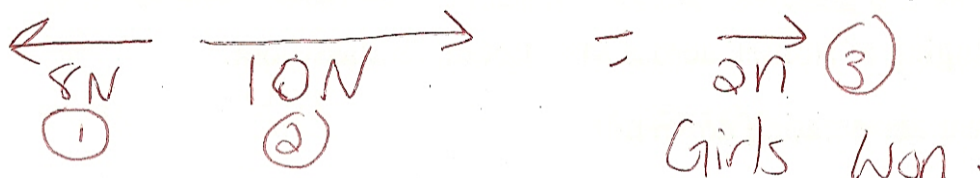


11. You are sitting on the front handle bar of a bicycle while your friend is pedaling. Your friend sees a cat crossing the road and stops short. Where will you land and why?(3)

① you land in front of bike. ② you still have some forward momentum - Inertia. ③

MATH PROBLEMS- USING VECTORS

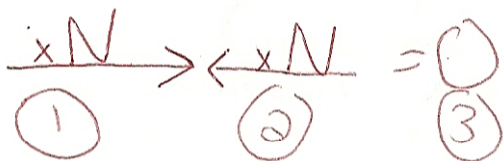
12. Jack and Dan are playing Tug-o-War against Maddie Cote and Leah Benz. The boys pull on the rope with a force of 8 N, while the girls pull on the rope with a force of 10 N. Use vectors to show this scenario and determine who won the Tug-O-War. (3)



13. Riley and Brad West are riding in the car with Mrs. Chapman. The car gets stuck in the snow and the boys have to push it out. Riley pushes on the car with a force of 12 N, and Brad pushes in the same direction with a force of 5 N. Use vectors to show this scenario and determine how much total force is pushing the car. (3)



14. Liam and Ethan are arm wrestling. Describe a situation using vectors to show the boys in a "stale mate" where neither is winning the arm wrestling match. (3)



True and False (1 point each)

15. F Sir Isaac Newton was an Italian Chemist.

16. T Decreasing the mass of an object would increase its speed on a flat road.